

NOTEBOOKS

FAQ

Q What are the advantages of solid-state storage, and when will we see notebooks that use it?

A In theory, flash memory has a number of advantages over hard disks that make it particularly suitable for notebook storage. A constantly spinning hard disk consumes battery power, but letting it spin down creates a delay before data can be accessed again. Flash memory has no moving parts, so it suffers neither problem. It's generally more reliable, and is less susceptible to damage from falls or knocks.

The high price of flash memory makes high-capacity solid-state disks prohibitively expensive, so it will be a while before they appear. However, Samsung and Microsoft are developing hybrid drives, which combine a standard magnetic hard disk with around 1GB of solid-state memory used as a cache. These should be faster and require less power to operate. Expect them to begin appearing in notebooks in the first quarter of 2007.

Seth Barton

Notebooks and video expert



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ZEPTO Znote 6015WD

★★★★★

£599 inc VAT

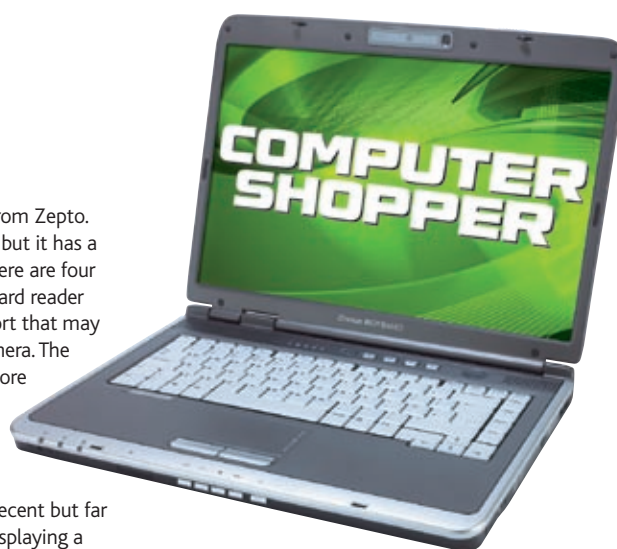
This is the first notebook we've reviewed from Zepto. Its looks aren't much to get excited about, but it has a good selection of ports and connectors. There are four USB2 ports, two on each side, a memory card reader for digital photographers and a FireWire port that may be useful for those with a digital video camera. The notebook's Expresscard/54 slot provides more scope for expansion, while just above the display there's a built-in webcam.

The display measures 15.4" diagonally and has a resolution of 1,280x800 pixels, which is fine for most tasks. Its picture is decent but far from the best we've seen. It's capable of displaying a fairly bright, clean white, but the backlighting is a little uneven, with darker tones towards the bottom. Graduated colours and greys are smooth, though.

Below the screen is a pair of small speakers, which sound clear but lack volume. Fortunately, the Znote has an integrated mini-jack audio and mini-optical S/PDIF output, so you can connect a simple pair of speakers or a digital surround-sound set. Beside this is a handy volume control, and there are five dedicated media control buttons across the notebook's front edge.

The grey keyboard has a slight bulge in the middle and flexes when you type. Its keys have a shallow depth of travel and feel spongy. The touch pad is better, with big responsive buttons. It tracks accurately and is shaped to match the display's widescreen aspect. The pad's surface is almost flush with the surrounding plastic, which looks smart, but your finger can slip off it.

This notebook's Windows performance is respectable, and its Intel Core Duo T2050 processor is



more than powerful enough for day-to-day computing. However, if you plan to take on tougher tasks such as video editing, you'll need an upgrade to 1GB of RAM. The integrated Intel graphics chipset couldn't run our Doom 3 test, so it's not suitable for gamers. The battery lasted for a very respectable three hours and six minutes, which is fine for occasional mobile use.

The 60GB hard disk is a little on the small side and will quickly fill up if you're a keen collector of music and video files. Fortunately, the Znote has a DVD writer so you can archive old files to disc. Surprisingly for a budget notebook, it also has Bluetooth, making it easy to connect to a mobile phone for getting online or synchronising data.

The Zepto is a decent notebook with lots of useful features and plenty of ports, but it's let down by its keyboard. If you don't need Bluetooth, Asus's F3F-AP010H (below) is a better choice.

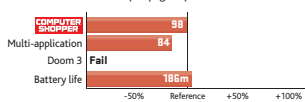
Seth Barton

SUMMARY

- ✓ Good value
- ✓ Lots of interfaces, plus Bluetooth
- ✗ Spongy keyboard

NOTEBOOK 1.6GHz Intel Core Duo T2050, 512MB RAM, 60GB hard disk, Intel GMA 950 graphics, DVD+/-RW +/-DL drive, 15.4" widescreen LCD
SUPPLIER Zepto 08703 504500
DETAILS <http://uk.zepto.com>

PERFORMANCE (see page 56)



Also consider...

ASUS F3F-AP010H

★★★★★

£586 inc VAT



The F3F looks much more stylish than you'd expect at this price, sharing a chassis with more expensive Asus notebooks. The display is excellent, and is capable of producing bright whites and subtle colours. Input devices are generally good, with a firm keyboard and accurate touch pad, although the unusual tilting touch pad button is a little indistinct when pressed.

This notebook has all the ports you'll need, including a memory card reader. Inside there's a decent-sized 80GB hard disk plus a DVD writer for backups. It can handle all but the toughest tasks thanks to a dual-core processor and 1GB of RAM, and scored 118 overall in our application benchmarks. The battery is incredible, lasting for just over six hours in our light-usage test.

NOTEBOOK 1.6GHz Intel Core Duo T2050 processor, 1GB RAM, 80GB hard disk, Intel GMA 950 integrated graphics, DVD+/-RW +/-DL, 15.4" widescreen LCD SUPPLIER Scan 08707 554747 DETAILS <http://uk.asus.com> PART CODE F3F-AP010H ✓ Great display; long battery life and warranty ✗ Poor touch pad button FULL REVIEW Jan 2007



The F3F is a great notebook with a confidence-inspiring two-year warranty. It won the £600 category in our notebook price test (Shopper January 2007).

DELL Inspiron 9400

★★★★★
£1,179 inc VAT

Dell's Inspiron 9400 notebook is aimed at the home entertainment market. The first thing that strikes you about it is the excellent screen, which is particularly important for an entertainment PC. It displays crisp text, bright whites and smoothly graduated colours.

The 17" screen has a massive 1,920x1,200 resolution, which is high enough to display 1080p High Definition video. There's little HD content available now, but it's good to know that in the future you won't need an external monitor to do it justice. The large display area and high resolution are also ideal for working on complicated applications, with enough desktop space to display multiple windows and toolbars side by side.

Like nearly all notebook speakers, the 9400's lack bass, but they're bright and clear, with plenty of volume and no obvious distortion. We were disappointed to find no S/PDIF audio output, though, as the combined headphone and line-out socket won't let you connect surround-sound speakers. However, there are six USB2 ports, one FireWire and one DVI port and a memory card reader with support for SD, MMC, MS and xD formats.

The 9400 has a fast Intel Core 2 Duo processor with 1GB of RAM. It performed well in our benchmarks, including processor-intensive video-editing tasks. The Nvidia GeForce Go 7900 chipset was particularly impressive. It managed a blistering score in our Doom 3 notebook test, so we gave it a more taxing workout with our desktop Call of Duty 2 benchmark. It managed a playable 27.7fps, which is faster than many desktop graphics cards.

This notebook comes with Windows XP Media Center Edition.



Dell supplies a Media Center remote control but no TV tuner as standard. You can buy a USB tuner for as little as £37, which would let you take advantage of Media Center's great electronic programme guide (EPG).

For a notebook with such a large screen, the 9400's three-hour battery life is respectable. It's fine for a spot of computing in the garden or on the sofa, but the notebook's size and weight make it an impractical

travelling companion. While you may like to use a mouse with a desktop replacement notebook, this PC's touch pad is accurate so it isn't a necessity. Its keyboard could be a little firmer, however.

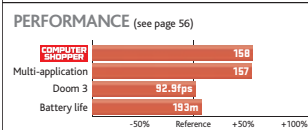
The Inspiron 9400 is keenly priced given its high specification and performance, so it's a good deal for anyone who needs a portable gaming computer. Its stunning screen helps to make it a good media PC, but the lack of other entertainment features such as an S/PDIF output and TV tuner means it isn't perfect, and it just misses out on an award.

Seth Barton

SUMMARY

- ✓ Powerful 3D chipset
- ✓ High-resolution gloss display
- ✗ No TV tuner or S/PDIF audio output

NOTEBOOK 2.0GHz Intel Core 2 Duo T7200, 1GB RAM, 120GB hard disk, Nvidia GeForce Go 7900 graphics, DVD+/-RW +/- DL drive, 17" LCD screen, 3.6kg
PART CODE PPUK5-N12947R
SUPPLIER Dell 08709 075818
DETAILS www.dell.co.uk



BYTE SIZE

POWERTRAVELLER PowerMonkey

★★★★★
£30 inc VAT



BEST BUY If you're tired of your mobile devices running out of power while you're out, the PowerMonkey can help. It comes with a 2200mAh rechargeable battery pack and a set of adaptors that let you recharge popular phones and Sony PSPs wherever you are. There's also an adaptor for USB-powered devices. The PowerMonkey stores enough power for 96 hours' standby on a phone; we recharged a Nokia handset and had plenty of charge left.

You can charge the battery pack through the supplied universal mains charger or the USB cable. You can even fit the charger and cable with any of the power adaptors to recharge gadgets directly when you're near a power outlet. The PowerMonkey is an indispensable tool for the frequent traveller.

David Ludlow

SUPPLIER www.pcwb.com
DETAILS www.powertraveller.com

POWERTRAVELLER SoundTraveller K3000

★
£45 inc VAT



We've reviewed a few mini speakers that connect to an iPod through its dock connector. They've all been pretty pointless, and the SoundTraveller K3000 is no exception. Available in a range of colours to match the new iPod Nano, it plugs into your iPod and produces some of the worst sound you're likely to hear. At low volume the speaker is tinny, but at full volume, which is just loud enough to be heard by a room full of people, it distorts badly.

The K3000 speaker runs on a single AA battery, which you can recharge through the provided USB cable. It's one nice touch in an otherwise poor and expensive package.

David Ludlow

SUPPLIER Powertraveller 01420 542980
DETAILS www.powertraveller.com

PC NEXTDAY Zoostorm 55-7701

★★★★★
£919 inc VAT and delivery

BEST BUY PC Nextday's 55-7701 is a desktop replacement notebook with a big 17" display that supports a 1,440x900 pixel resolution. This provides plenty of desktop space for complicated or multiple applications. The keyboard isn't the best we've used, so those who type long documents should look elsewhere. The touch pad is accurate, but most users will opt for a mouse with this kind of notebook. Inside there's a big 120GB hard disk, which provides lots of storage for large media files.

The Intel Core 2 Duo processor and 1GB of RAM helped the Zoostorm to a fantastic 170 in the Shopper application benchmarks. With a dedicated 3D graphics chipset, it managed a playable 27.1fps in Doom 3.

Big notebooks aren't designed for everyday mobile use, and the Zoostorm's battery lasted only two-and-



a-half hours in our test. However, if you need a powerful notebook for home use that won't cost the earth, this is ideal.

NOTEBOOK 2.16GHz Intel Core 2 Duo T7400 processor, 1GB RAM, 120GB hard disk, ATI Mobility Radeon X1600 graphics, DVD+/-RW +/-DL, 17" widescreen LCD SUPPLIER sales@pcnextday.co.uk DETAILS www.pcnextday.co.uk PART CODE 3355-7701 ✓ Powerful in Windows; TV tuner ✗ Average keyboard and battery FULL REVIEW Jan 2007

BYTE SIZE

NETAC USB OnlyDisk U220 1GB

★★★★★
£27 inc VAT



Netac's OnlyDisk U220 is an encrypted USB drive. Its PC software lets you partition the drive into a secure sector and an open sector. Once you have assigned a password, you can set how many times it can be entered incorrectly before the drive locks. To reset the device you must send it back to Netac, and you will lose all your data. The drive uses 128-bit encryption, so it is practically impossible to hack.

The U220 obtained average scores in our file-reading and writing tests. It's twice the price of a normal 1GB flash drive, but a good buy if you need to carry sensitive data.

Chris Fynamore

SUPPLIER www.amazon.co.uk
DETAILS www.netac.com

LEADTEK 9559X Bluetooth GPS receiver

★★★★★
£70 inc VAT



If you've bought a GPS navigation program for your PDA or smartphone, you may still need a Bluetooth GPS receiver. Leadtek's 9559X is fairly chunky with an integrated SiRFstar III GPS chip.

A blue LED indicates a successful Bluetooth pairing with your mobile device, and a green one confirms a GPS lock. Pairing the receiver with our test PDA was easy. Finding a GPS signal from a cold start took around a minute, which is slightly slower than average. A car charger and a mains adaptor are included. If your satellite navigation software didn't come with a GPS receiver, you'll find that Leadtek's 9559X works well and is good value.

Chris Fynamore

SUPPLIER www.handtec.co.uk
DETAILS www.leadtek.com.tw

ROCK Pegasus T12

★★★★★

£1,149 inc VAT

We often see the same notebook chassis from different vendors, but Rock has added a huge battery and a fast processor to help the Pegasus T12 stand out from its competitors. Its battery is one of the most heavy duty we've ever seen, with a massive 111 watt-hour (Wh) capacity. This makes it very big, and it extends from the back by 39mm and downwards by 6mm, making the entire notebook rather ungainly and back-heavy.

The battery alone weighs 450g and makes up a significant part of the overall 3.1kg weight. However, it kept the notebook running for an incredible eight-and-a-quarter hours in our light-usage battery test. That's a whole working day's worth of web surfing, and is one of the best results we've ever seen.

The notebook is no less brick-like than its battery, and the selection of ports isn't terribly impressive either. We've seen a version of this chassis with both a memory card reader and a FireWire port but, sadly, both are absent from the Pegasus. It has four USB ports, though, so there's plenty of potential for adding peripherals.

The display is good but not outstanding, with slightly restrictive viewing angles and a light graininess across the whole display. It's capable of a bright, clean white, but colour gradients could be smoother. It's fine for most tasks, but keen photo manipulators should look elsewhere.

The keyboard has reasonable depth of travel and each key is a sensible size. It's fine for most users, but you may find it uncomfortable if you write long documents regularly.

This version of the T12 has a very powerful Intel Core Duo T7600



processor, which at 2.33GHz is currently the fastest in Intel's mobile range. The Pegasus flew through our 2D benchmarks with incredible scores. It'll take on the toughest computing tasks, but most users probably won't need this kind of power. Fortunately, the T12 is also available with a choice of more affordable processors. The onboard Intel graphics are fine for Windows applications but you won't be able to play games.

With a 120GB hard disk, this notebook has plenty of storage, plus a DVD writer for backing up files. Rock also includes a generous three-year warranty, which compares well with the single year most manufacturers offer as standard.

The Pegasus T12 speeds through Windows applications and has an impressive battery life. However, we expect notebooks at this price to shine in other areas, too, and the T12's range of ports and display quality are underwhelming. The Asus F3F-AP010H (see 'Also consider...', page 16) is a cheaper alternative.

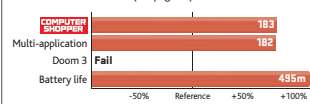
Seth Barton

SUMMARY

- ✓ Fantastic application performance
- ✗ Huge battery extends from rear
- ✗ No card reader or FireWire port

NOTEBOOK 2.33GHz Intel Core Duo T7600, 1GB RAM, 120GB hard disk, Intel GMA 950 graphics, DVD+/-RW +/-DL drive, 15.4" LCD screen, 3.1kg
PART CODE PEG-T12-T76
SUPPLIER Rock Direct 08709 909090
DETAILS www.rockdirect.com

PERFORMANCE (see page 56)



Also consider...

SAMSUNG Q35 Red

★★★★★

£949 inc VAT



The Samsung Q35 has everything you need from an ultra-portable notebook. The widescreen display is very impressive with bright whites and accurate colours, while the keyboard is a good size and the touch pad is very accurate. It weighs just 1.9kg and feels robust enough to take a few knocks. All the ports you're likely to want are squeezed around the tiny chassis.

Inside there's a DVD writer and a 100GB hard disk, providing plenty of storage for most needs. The Q35 has a fast dual-core processor and 1.25GB of RAM. Its integrated graphics chip uses 256MB of this, however, and the total can't be upgraded. It scored 146 overall in the *Shopper* application benchmarks.

The battery lasted for an impressive five hours and 39 minutes in our light-usage test, so you'll be able to



work for more than a morning or afternoon at a time. It's a great little notebook and would make an ideal travelling companion.

NOTEBOOK 1.83GHz Intel Core 2 Duo T5600 processor, 1.25GB RAM, 100GB hard disk, Intel GMA 950 graphics, DVD+/-RW +/-DL, 12.1" widescreen LCD SUPPLIER Micro Anvika 020 7467 6050 DETAILS www.samsung.com/uk PART CODE NP-Q35T008/SUK ✓ Excellent battery life; good Windows performance ✓ Good display and keyboard FULL REVIEW Jan 2007

BYTE SIZE

RADICA Golden Tee Home Edition

★★★★★
£40 inc VAT



Since 1989, Golden Tee golf games have been a regular feature in pubs and sports bars, but this version lets you practise at home. To play a stroke, simply roll the large trackball back to set your backswing, then quickly forward to strike the ball in the right direction. It takes a little practice, but it's immensely satisfying.

The game has various modes, with stroke and match play for up to four players, optional computer opponents and a driving range to practise your hooks and slices. With only one 18-hole course, though, there isn't much variety. It's fun, but expensive and limited compared with Atari's Paddle game reviewed in our Christmas gift guide (*Labs, Shopper* January 2007).

Seth Barton

SUPPLIER www.amazon.co.uk
DETAILS www.radicagames.com

ZIP-LINQ Deluxe Road Warrior Kit

★★★★★
£33 inc VAT



The Zip-Linq Deluxe Road Warrior Kit is designed for the business person on the move. It comprises a range of useful gadgets in a zip-up carry case, including a USB lead and extension, plus adaptors for all USB port types. There's a network cable with crossover adaptor, but no modem cable. All leads are retractable.

The kit's little travel mouse works well, although its small size may make your hand ache. The flexible LED light could be useful for typing in the dark, but the microphone headset isn't great. Few people will use all the items in this kit, but it's good value.

Seth Barton

SUPPLIER www.misco.co.uk
DETAILS www.ziplinq.com

CHOOSING A... Notebook Computer

Follow the steps to find your ideal specs

PROCESSOR: 1.6GHz Intel Celeron M 420
MEMORY: 512MB DDR
HARD DISK: 60GB
STORAGE: DVD rewriter
GRAPHICS: Integrated (shares system memory)
SCREEN: 15.4" widescreen 1,280x800 LCD
EXTRAS: Wireless networking
CONNECTORS: Three USB2, memory card reader
SOFTWARE: Windows XP Home Edition
WEIGHT: 3kg
Recommended minimum in grey

1 The minimum specification of notebook we recommend, shown above in grey, is a good starting point when working out your ideal system. This is an average notebook that should cost around £600. It is not particularly powerful or, at 3kg, particularly portable.

2 Dual-core processors, such as Intel's Core Duo range, can be much faster at many tough tasks. This is dependent on software support, but a lot of applications have now been optimised. Dual-core processors are widely available and often cost only a little more than their single-core equivalents.

3 Most notebooks come with 15.4" 1,280x800 widescreen displays, which are great for watching DVDs or TV. If you want a notebook for use around the home, especially for entertainment purposes, it's worth considering one with a larger 17" display. This will also have a higher native resolution of at least 1,440x900, giving you a bigger desktop. This makes it far easier to use complex applications, such as photo- or video-editing software.

4 A modem, 10/100 Ethernet port and wireless 802.11b/g networking (WiFi) should be fitted as standard, but there are also some other ports and connectors that you might want. FireWire (IEEE 1394) is common and useful for digital video enthusiasts. Bluetooth is handy for connecting to a mobile phone, but it's usually fitted only to more expensive business notebooks. Memory card readers are pretty much standard, but check that your camera or MP3 player's format is supported.

5 If portability is your main priority, look for notebooks with 12.1" displays.

Spending around £1,000 will get you an ultra-portable notebook that weighs under 2kg. Most of these notebooks are just as powerful as their larger counterparts, though some use slower, ultra-low voltage (ULV) processors to further increase battery life.

6 Some ultra-portables can attach to an optional docking station, which incorporates drives, ports and power, when you get home to your desk. It's the best of both worlds, but tends to be expensive. Others have separate DVD drives to help keep size and weight to a minimum.

7 If you're not swayed by ultra-portable chic, you can get a lot more for your money. Entertainment notebooks pile on the features but still keep the price under £1,200. You should expect a 17" widescreen display, hybrid TV tuner, Windows XP Media Center Edition and a remote control.

8 There are features you can add to a notebook without increasing the weight or reducing battery life. A 120GB or 160GB hard disk will give you much more storage space, while 1GB of RAM will help you speed through bigger tasks. DVD rewriter drives are standard and will allow you to burn CDs and DVDs on your notebook.

9 Dedicated graphics let you play modern 3D games and are increasingly common on all but the cheapest or lightest notebooks. Look for ATI Radeon Mobility X1600 or Nvidia GeForce Go 7600 as a minimum for getting smooth frame rates on the latest titles. Many notebooks use integrated graphics, which are fine for all other purposes, but use up system memory.

10 Once you're happy with your specification, start to shortlist some models you can afford. Check the weight, display size and battery life of each of them. If these are not acceptable, you need to reconsider your priorities and which features you really need.

